Victor Falgas-Ravry, Klas Markström, Andrew Treglown and Yi Zhao*
(yzhao6@gsu.edu). Existence thresholds and Ramsey properties of random posets.

Let $P_n$ denote the power set of $[n]$, ordered by inclusion, and let $P(n, p)$ denote the random poset obtained from $P_n$ by retaining each element from $P_n$ independently at random with probability $p$ and discarding it otherwise.

Given any fixed poset $F$, we determine the threshold for the property that $P(n, p)$ contains $F$ as an induced subposet. We also asymptotically determine the number of copies of a fixed poset $F$ in $P_n$. Finally, we obtain a number of results on the Ramsey properties of the random poset $P(n, p)$. (Received August 17, 2020)